

# PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference <b>2004-2828.EP05</b>	<b>FOR FURTHER ACTION</b> see Form PCT/ISA/220 as well as, where applicable, Item 5 below.	
International application No. <b>PCT/PT2004/000025</b>	International filing date (day/month/year) <b>28/10/2004</b>	(Earliest) Priority Date (day/month/year) <b>29/10/2003</b>
Applicant <b>UNIVERSIDADE DO MINHO</b>		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 5 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

### 1. Basis of the report

a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ The international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. ☐ With regard to any nucleotide and/or amino acid sequence disclosed in the international application, see Box No. I.

2. ☐ Certain claims were found unsearchable (See Box II).

3. ☒ Unity of invention is lacking (see Box III).

### 4. With regard to the title,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

### 5. With regard to the abstract,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

### 6. With regard to the drawings,

a. the figure of the drawings to be published with the abstract is Figure No. \_\_\_\_\_

☐ as suggested by the applicant.

☐ as selected by this Authority, because the applicant failed to suggest a figure.

☐ as selected by this Authority, because this figure better characterizes the invention.

b. ☐ none of the figures is to be published with the abstract.

**A. CLASSIFICATION OF SUBJECT MATTER**  
 IPC 7 D06M16/00

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 D06M

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5 599 698 A (BATTISTEL ET AL) 4 February 1997 (1997-02-04) cited in the application the whole document	1-5
X	US 6 066 494 A (HSIEH ET AL) 23 May 2000 (2000-05-23) column 10, line 43 - line 64	6
A	US 6 180 388 B1 (CROUZET JO{UMLAUT OVER }L ET AL) 30 January 2001 (2001-01-30) the whole document	6-11

☐ Further documents are listed in the continuation of box C.


Patent family members are listed in annex.

**\* Special categories of cited documents:**

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

- \*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- \* & \* document member of the same patent family

Date of the actual completion of the international search

26 January 2005

Date of mailing of the international search report

01/02/2005

Name and mailing address of the ISA

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Authorized officer

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## FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-5,11

Method for the treatment of polyacrylonitrile fibre containing vinyl acetate as a comonomer wherein the fibre is contacted with an enzyme solution in order to modify the chemical surface of the fibre, increasing the number of hydrophilic hydroxyl groups.

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2. claims: 6-11

Method for the treatment of polyamide wherein the fibre is contacted with an enzyme solution, increasing the number of hydrophilic amino groups.

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**Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)**

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
  
2. ☐ Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
  
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

**Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)**

This International Searching Authority found multiple inventions in this International application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☒ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5599698	A	04-02-1997	NONE
US 6066494	A	23-05-2000	US 2003119172 A1 26-06-2003
			US 6436696 B1 20-08-2002
			US 2002115193 A1 22-08-2002
			AU 715781 B2 10-02-2000
			AU 2196397 A 22-09-1997
			BR 9707840 A 04-01-2000
			CA 2244694 A1 12-09-1997
			CN 1212727 A , B 31-03-1999
			EP 0885311 A1 23-12-1998
			JP 2001502014 T 13-02-2001
			JP 2003064582 A 05-03-2003
			NZ 331262 A 28-01-2000
			WO 9733001 A1 12-09-1997
US 6180388	B1	30-01-2001	FR 2736928 A1 24-01-1997
			AU 6618896 A 18-02-1997
			BR 9611086 A 28-12-1999
			CN 1193348 A 16-09-1998
			EP 0839188 A1 06-05-1998
			WO 9704083 A1 06-02-1997
			JP 10510436 T 13-10-1998
			JP 3205344 B2 04-09-2001